Introduction to ISO 14001

VA DEQ EMS

ISO 14001 is a powerful management tool that can be utilized by an organization.

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Introduction to ISO 14001 (cont.)

VA DEQ EMS

The benefits of ISO 14001 are not just applicable to the organization which adopts it. Adjacent property owners and environmental groups have the potential to benefit also.

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Introduction to ISO 14001 (cont.)

VA DEQ EMS

An organization normally employs a generalized strategic planning process to determine what products, services and/or activities it should produce to respond to the market.

Introduction to ISO 14001 (cont.)

VA DEQ EMS

The generalized strategic planning process normally follows the plan, do, check and act concepts.

Introduction to ISO 14001 (cont.)

VA DEQ EMS

ISO 14001 is built upon the same plan, do, check and act concepts. ISO 14001 also stresses the additional concept of continual improvement.

Introduction to ISO 14001 (cont.)

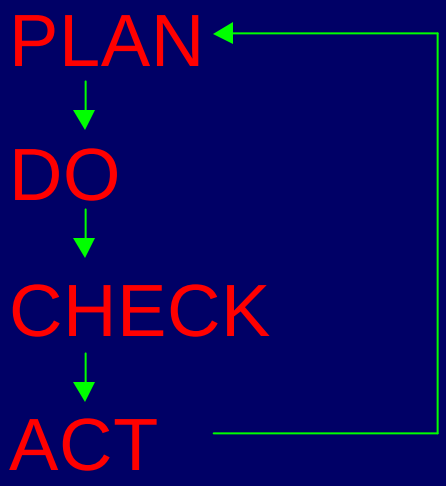
VA DEQ EMS

ISO 14001 can be integrated into an organization's strategic planning process.

Introduction to ISO 14001 (cont.)

VA DEQ EMS

REMEMBER THE ISO 14001 FRAME



Continual

Improvement

Overview of ISO 14001

VA DEQ EMS

General requirements (4.1)

This clause states that all sections of the standard must be complied with in order to be in conformance with the standard.

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Overview of ISO 14001(cont.)

VA DEQ EMS

Environmental Policy (4.2)

An environmental policy must be constructed that contains the following elements:

1. Relevant to activities
2. Comply with legislation
3. Commits to the prevention of pollution

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Overview of ISO 14001(cont.)

VA DEQ EMS

Environmental Policy (cont.)

4. Commits to continual improvement

5. Commits to setting environmental objectives and targets

6. Available to employees and public

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Overview of ISO 14001(cont.)

VA DEQ EMS

PLAN

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Overview of ISO 14001(cont.)

VA DEQ EMS

Environmental Aspects (4.3.1)

Identify environmental aspects for:

1. Normal operating conditions

2. Foreseeable deviations and emergencies

Overview of ISO 14001(cont.)

VA DEQ EMS

Legal and Other Requirements (4.3.2)

Identify the following:

1. Legislation
2. Regulations
3. Other restrictions

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Overview of ISO 14001(cont.)

VA DEQ EMS

Objectives and Targets (4.3.3)

Environmental objectives and targets must be established which are consistent with the environmental policy.

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Overview of ISO 14001

VA DEQ EMS

Environmental Management Program (4.3.4)

1. Programs for the achievement of objectives and targets must be established.

2. Responsibilities designated.

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Overview of ISO 14001

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IMPLEMENT

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Overview of ISO 14001(cont.)

VA DEQ EMS

Structure and Responsibility (4.4.1)

1. Adequate resources and skills provided.

2. Management representative assigned to operate and report.

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Overview of ISO 14001(cont.)

VA DEQ EMS

Training, Awareness & Competence (4.4.2)

1. Employees must be aware of environmental objective(s).

2. Employees in area of responsibility must have appropriate training.

3. Employees in the area of responsibility must be aware of consequences

Overview of ISO 14001(cont.)

VA DEQ EMS

Communication (4.4.3)

1. System in place to receive and respond to communications with respect to environmental aspects.

2. Process for both internal and external communication.

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Overview of ISO 14001(cont.)

VA DEQ EMS

Environmental Management System Documentation (4.4.4)

1. Documented description of the EMS that relates policy, objectives and targets, and responsibilities.

2. Must describe how to access associated documents.

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Overview of ISO 14001(cont.)

VA DEQ EMS

Document Control (4.4.5)

There must be a document control system.

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Overview of ISO 14001(cont.)

VA DEQ EMS

Operational Control (4.4.6)

1. Documented procedures must be prepared when they are needed to insure conformance.

2. Suppliers and contractors informed of procedures.

DOCUMENTED

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Overview of ISO 14001(cont.)

VA DEQ EMS

Emergency Preparedness and Response (4.4.7)

1. Foreseeable emergency situations must be identified, and procedures in place to respond.

2. Procedures tested periodically.

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Overview of ISO 14001(cont.)

VA DEQ EMS

CHECK

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Overview of ISO 14001(cont.)

VA DEQ EMS

Monitoring and Measuring (4.5.1)

1. Documented procedures for monitoring procedures.

2. Calibrated equipment.

3. Procedure for evaluating compliance with laws and regulations

DOCUMENTED

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Overview of ISO 14001(cont.)

VA DEQ EMS

Nonconformance and Corrective and Preventative Action (4.5.2)

Process in place for investigating and correcting nonconformance(s).

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Overview of ISO 14001(cont.)

VA DEQ EMS

Environmental Management Records (4.5.3)

Record retention and archiving must be specified.

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Overview of ISO 14001(cont.)

VA DEQ EMS

Environmental Management System Audit (4.5.4)

1. The EMS must be audited to insure it is operating as designed.
2. Audit results reported to management.
3. Nonconformance(s) must be addressed.

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Overview of ISO 14001(cont.)

VA DEQ EMS

ACT

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Overview of ISO 14001(cont.)

VA DEQ EMS

Management Review (4.6)

1. Review must occur, with emphasis on policy and objectives, to determine if EMS is still effective for organization's activities.

2. Review the need to modify all or part of the EMS due to changed conditions.

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Overview of ISO 14001(cont.)

VA DEQ EMS

REMEMBER THE FOLLOWING:

1. All sections are a “shall”.

2. “Documented” is used sparingly, more is probably appropriate.

3. Continually evolving process -- audits, corrections, and changing circumstances.

ISO 14001 Definitions

VA DEQ EMS

ISO 14001 DEFINITIONS

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ISO 14001 Definitions (cont..)

VA DEQ EMS

The definition section of the ISO 14001 standard provides the foundation of the entire standard. They need to be understood is the standard is to be implemented.

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.1 -- Continual Improvement

Process of enhancing the environmental management system to achieve improvements in overall environmental performance in line with the organization's environmental policy.
NOTE -- The process need not take place in all areas of activity simultaneously."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Continual improvement in this usage applies only to the environmental management system. It does not directly apply to environmental performance. It is assumed that if the environmental management system is improved that environmental performance will also improve.

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.2 -- Environment

Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.

NOTE -- Surroundings in this context extend from within an organization to the global system."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Includes environment and natural resources, but does not require the inclusion of safety and industrial hygiene.

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.3 -- Environmental Aspect

Element of an organization's activities, products or services that can interact with the environment.

NOTE -- A significant environmental aspect is an environmental aspect that has or can have a significant environmental impact."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"Interact' -- positive, neutral or negative

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.4 -- Environmental Impact

Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

The combination of environmental aspects with the environmental impacts is the first step in establishing the significance of the environmental aspect.

ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.5 -- Environmental Management System

The part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.6 -- Environmental Management System Audit

A systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organization's environmental management system conforms to the environmental management system audit criteria set by the organization, and for communication of the results of this process to management."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Checking to see if the EMS is being implemented properly at every appropriate level of the organization.

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.7 -- Environmental Objective

Overall environmental goal, arising from the environmental policy, that an organization sets itself to achieve, and which is quantifiable where practicable."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Specific goals that must be set to implement the environmental policy.

ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.8 -- Environmental Performance

Measurable results of the environmental management system, related to an organization's control of its environmental aspects, based upon its environmental policy, objective and targets."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.9 -- Environmental Policy

Statement by the organization of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

The entire environmental management system is designed to meet the commitments of the environmental policy. It provides the framework for setting the environmental objectives and targets.

ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.10 -- Environmental Target

Detailed performance requirement, quantified where practicable, applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Detailed performance requirement that arise from environmental objective. Must be measurable and quantifiable.

ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.11 -- Interested Party

Individual or group concerned with or affected by the environmental performance of an organization."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.12 -- Organization

Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration.

NOTE -- For organizations with more than one operating unit, a single operating unit may be defined as an organization."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

"3.13 -- Prevention of Pollution

Use of processes, practices, materials or products that avoid, reduce or control pollution, which may include recycling, treatment, process changes, control mechanisms, efficient use of resources and material substitution.

NOTE -- The potential benefits of prevention of pollution include the reduction of adverse environmental impacts, improved efficiency and reduced costs."

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ISO 14001 Definitions (cont..)

VA DEQ EMS

The organization must commit to review and utilize where appropriate the following prevention of pollution techniques -- recycling, treatment, process change, control mechanisms,efficient use of resources and material substitution.

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Non-ISO 14001 Definitions

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Conformance

The condition or fact of being in harmony or agreement; correspondence; congruity; similarity.

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Compliance

Complying, or giving in to a request, demand, wish, etc. Also--in compliance with, in accordance with.

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ISO 14001 Definitions (cont..)

VA DEQ EMS

Conformance is utilized in ISO 14001. Compliance is associated with command and control activities such as environmental laws.

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General Requirements

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General Requirements (4.1)

General Requirements (cont.)

VA DEQ EMS

In order to be considered for compliance with the requirements of ISO 14001 every element of Section 4, Environmental Management System Requirements, must be addressed.

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General Requirements (cont.)

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ISO 14001 does contain Annex A (Informative) -- Guidance on the Use of the Specification. This is only guidance there are not any third party audit issues contained within Annex A.

General Requirements (cont.)

VA DEQ EMS

Section 4.1 clearly states that all issues laid out in Section 4 must be addressed.

THIS IS THE PURPOSE OF 4.1

Environmental Policy

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ISO 14001

Environmental Policy (4.2)

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Environmental Policy (cont.)

VA DEQ EMS

The Environmental Policy statement is the keystone of the environmental management system.

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Environmental Policy (cont.)

VA DEQ EMS

Must contain and communicate:

- mission and core values with respect to the environment, and
- commitments to control and improve environmental performance with respect to significant environmental aspects of the organization's products, activities and/or services.

Environmental Policy (cont.)

VA DEQ EMS

Content requirements of the Environmental Policy statement:

1. Appropriate to organization's environmental impacts,

2. Provides framework for setting Environmental Objectives and Targets,

3. Commitment to continual improvement,

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Environmental Policy (cont.)

VA DEQ EMS

Content requirements of the Environmental Policy statement: (cont.)

4. Commitment to prevention of pollution,

5. Commitment to comply with environmental laws and regulations, and other requirements to which the organization subscribes,

6. Document and implement the Environmental Policy, and

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Environmental Policy (cont.)

VA DEQ EMS

Content requirements of the Environmental Policy statement: (cont.)

7. Commitment to communicate the Environmental Policy to the Public.

Environmental Policy (cont.)

VA DEQ EMS

Appropriate…environmental impacts:

1. Every organization has unique interactions with and impacts on the environment.

2. Must demonstrate that it is fully aware of all relevant environmental issues and their potential impact and importance.

Environmental Policy (cont.)

Organization will need to review at a minimum the following:

- its operation,
- pollutant emissions and releases,
- past environmental performance,
- location,
- land use activities,
- sensitive environmental areas,

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Environmental Policy (cont.)

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Organization will need to review at a minimum the following: (cont.)

- environmental impacts from other organizations nearby,
- environmental legislation and regulation,
- community stakeholder views,
- etc.

Environmental Policy (cont.)

VA DEQ EMS

Framework…Objectives & Targets:

- Each Environmental Objective must be traceable back to the Environmental Policy statement.
- Every action, requirement, procedure, etc., must trace back to the Environmental Policy statement.

Environmental Policy (cont.)

VA DEQ EMS

Continual Improvement:

This issue focuses on the improvement of the environmental management system. The system must be reviewed at a set frequency for changed aspects and impacts.

Yearly

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Environmental Policy (cont.)

VA DEQ EMS

Commitment to Prevention of Pollution:

Once Environmental Objectives have been established the only requirement is that prevention of pollution be evaluated as one of the alternatives.

Environmental Policy (cont.)

VA DEQ EMS

Commitment to comply...environmental laws & regulations:

1. This statement is straightforward.

2. No clause in ISO 14001 requires unconditional compliance.

3. What is required?

    a. Identify applicable laws and regulations,

Environmental Policy (cont.)

VA DEQ EMS

Commitment to comply...environmental laws & regulations: (cont.)

b. decide whether in compliance or noncompliance,

c. for those areas where noncompliance exists, develop an action plan to correct noncompliance, and

d. establish a system to maintain compliance.

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Environmental Policy (cont.)

VA DEQ EMS

Commitment to comply...environmental laws & regulations: (cont.)

4. Does an organization need to be in full compliance in order to conform with ISO 14001? NO

5. A continued pattern of noncompliance may demonstrate a lack of a “system to maintain compliance”.

6. Include voluntary guidelines.

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Environmental Policy (cont.)

VA DEQ EMS

Document and implement:

Executive level manager must sign the Environmental Policy statement.
Document control must be utilized.

Environmental Policy (cont.)

VA DEQ EMS

Communicate…Employees:

All employees within the organization must understand and recognize the commitments. Additionally, each employee should know how their job function interacts with the Environmental Policy statement.

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Environmental Policy (cont.)

VA DEQ EMS

Communicate…Public:

The Environmental Policy statement must be made available to the public.

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Planning Requirements

VA DEQ EMS

Planning Requirements (4.3)

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Planning Requirements (cont.)

VA DEQ EMS

The planning phase of ISO 14001 contains four distinct steps:

1. Environmental Aspects determination (4.3.1),

2. Legal and Other Requirements documentation (4.3.2),

Planning Requirements (cont.)

VA DEQ EMS

The planning phase of ISO 14001 contains four distinct steps:

3. Objectives and Targets development (4.3.3), and

4. Environmental Management Program development (4.3.4)

Planning Requirements (cont.)

VA DEQ EMS

The four step process may cause the Environmental Policy (4.2) statement to be an iterative process. Don't view this possibility as an impediment. It is just a opportunity to strengthen the Environmental Policy statement.

Environmental Aspects

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ENVIRONMENTAL ASPECTS (4.3.1)

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Environmental Aspects (cont.)

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The organization must determine its environmental aspects and then arrive at a list of the most important or significant aspects.

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Environmental Aspects (cont.)

VA DEQ EMS

There are three distinct requirements:

1. The organization must identify the environmental aspects of its products, services and/or activities.

How does it interact with environment?

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Environmental Aspects (cont.)

VA DEQ EMS

There are three distinct requirements: (cont.)

2. The organization shall identify the specific aspects that can be controlled, and over which it can be expected to have influence.

Control versus Influence

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Environmental Aspects (cont.)

VA DEQ EMS

There are three distinct requirements: (cont.)

3. The organization must arrive at a list of significant aspects based upon the individual impact of each aspect.

Which are the most important?

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Environmental Aspects (cont.)

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Identify Environmental Aspects

Potential list of environmental aspects:

1. releases of material to the air, water and/or soil;
2. disposal of wastes;
3. energy and natural resource consumption;

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Environmental Aspects (cont.)

VA DEQ EMS

Identify Environmental Aspects (cont.)

Potential list of environmental aspects:

4. noise levels;
5. transportation and/or storage of materials ;
6. manufacturing processes;
7. etc.

Environmental Aspects (cont.)

VA DEQ EMS

The purpose of this step is not to determine the importance of each aspect. The purpose of the step is to develop a complete listing of how the organization interacts with the environment.

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Environmental Aspects (cont.)

VA DEQ EMS

The procedure developed must include non routine conditions.

Environmental Aspects (cont.)

VA DEQ EMS

The concept of continual improvement must be included. The overall list of environmental aspects can be influenced by future changes in laws, changes in operations, etc.

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Environmental Aspects (cont.)

VA DEQ EMS

Controlled…Influence:

The organization needs to identify which of its environmental aspects that it can control versus those over which it only has influence

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Environmental Aspects (cont.)

VA DEQ EMS

Controlled…Influence: (cont.)

The simple approach here is to only include those over which it has control. However, this might not be enough in all cases. The use of life cycle analysis might be necessary in the design of products.

Environmental Aspects (cont.)

VA DEQ EMS

Controlled…Influence: (cont.)

This is a "**grey**" area in the standard.

The procedure that is utilized will need to address this "**grey**" area.

Environmental Aspects (cont.)

VA DEQ EMS

Significant Environmental Aspects

The process of arriving at a list of significant environmental aspects must be a reasonable and understandable procedure.

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Environmental Aspects (cont.)

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Significant Environmental Aspects (cont.)

The following criteria could be used:

1. perceived risk (human health vs. ecosystem);
2. impact analysis (internal, regional global);
3. probability of occurrence;

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Environmental Aspects (cont.)

VA DEQ EMS

Significant Environmental Aspects (cont.)

The following criteria could be used: (cont.)

4. direct or indirect control;
5. regulated or non-regulated;
6. resource utilization;
7. community interest;
8. etc.

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Environmental Aspects (cont.)

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Significant Environmental Aspects (cont.)

Utilize the preceding information to develop a risk based matrix that evaluates all the aspects for ranking. The information that is utilized in the matrix should be quantitative in nature, not qualitative.

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Environmental Aspects (cont.)

VA DEQ EMS

Review Points:

1. Organization must demonstrate that it understands how it interacts with the environment.

2. Explain its position on “control vs. Influence”.

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Environmental Aspects (cont.)

VA DEQ EMS

Review Points: (cont.)

3. Explain how it arrived at significant environmental aspects based upon impacts.

4. Develop a procedure that incorporates the three required steps.

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Environmental Aspects (cont.)

VA DEQ EMS

The procedure describing the establishment of the significant environmental aspects will be audited very closely under the conformance review of ISO 14001.

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Legal and Other Requirements

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LEGAL AND OTHER REQUIREMENTS (4.3.2)

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Legal and Other Requirements (cont.)

VA DEQ EMS

The organization must know and understand which environmental laws and regulations govern its operation.

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Legal and Other Requirements (cont.)

VA DEQ EMS

Three requirements:

1. Must understand which environmental laws and regulations govern its operations.

2. Must be able to explain the requirements of the appropriate laws and regulations.

Legal and Other Requirements (cont.)

VA DEQ EMS

Three requirements: (cont.)

3. Demonstrate that it keeps up to date on the environmental laws, regulations and requirements.

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Legal and Other Requirements (cont.)

VA DEQ EMS

Additional Point:

If the organization voluntarily subscribes to any environmental guidelines and/or requirements the preceding three points must be followed.

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Legal and Other Requirements (cont.)

VA DEQ EMS

This section does not contain the word “document” in the language of the standard. However, the only practical manner to demonstrate conformance is to assemble in one place a complete list and copies of the referenced material.

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ENVIRONMENTAL OBJECTIVES AND TARGETS (4.3.3)

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Environmental Objectives and Targets (cont.)

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Environmental Objectives are essentially the “goals” that are established to meet the “vision” statement of the organization.

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Environmental Objectives and Targets (cont.)

VA DEQ EMS

The “vision” statement of the organization is its Environmental Policy statement.

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Environmental Objectives and Targets (cont.)

VA DEQ EMS

Once these “goals” have been established detailed workplans and schedules need to be established to arrive at the “goals”. The detailed workplans and schedules are known as the Environmental Targets.

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Environmental Objectives and Targets (cont.)

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ISO 14001 requires that Environmental Objectives and Targets be quantitative rather than qualitative. In addition every level of the organization must be examined for inclusion in the Environmental Targets.

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Environmental Objectives and Targets (cont.)

VA DEQ EMS

ISO 14001 also requires that the Environmental Objectives and Targets be documented.

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Environmental Objectives and Targets (cont.)

VA DEQ EMS

There are four distinct content requirements for the development of the Environmental Objectives and Targets:

1. Organization must consider the material developed in the Legal and Other Requirements (4.3.2) section.

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Environmental Objectives and Targets (cont.)

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four…content requirements… (cont.)

2. The organization must utilize the list of significant environmental aspects previously developed.

3. The organization must evaluate the prevention of pollution commitment include in the Environmental Policy statement.

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Environmental Objectives and Targets (cont.)

VA DEQ EMS

four…content requirements… (cont.)

4. The organization must ensure that the views of interested parties are considered in the process of developing the Environmental Objectives.

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Environmental Objectives and Targets (cont.)

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Legal and Other Requirements

A reasonable approach here might be to develop an objective for all the applicable environmental laws and regulations and their corresponding requirements. Once compliance with a certain requirement is obtained the associated target could be set to a maintenance level of activity.

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Environmental Objectives and Targets (cont.)

VA DEQ EMS

Significant Environmental Aspects

The organization must evaluate every significant environmental aspect for inclusion as an Environmental Objective. If a significant environmental aspect is not carried forward into an objective the organization must provide a plausible and rational explanation.

Technology or Financial Limitations

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Environmental Objectives and Targets (cont.)

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Prevention of Pollution

An organization must evaluate the application of prevention of pollution techniques in the development of Environmental Targets. If the prevention of pollution approaches evaluated are not cost effective they do not need to be employed in a specific case.

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Environmental Objectives and Targets (cont.)

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Interested Parties

The organization will need to develop and maintain a process for accepting, evaluating and addressing outside comments.

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Environmental Management Programs

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ENVIRONMENTAL MANAGEMENT PROGRAMS (4.3.4)

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Environmental Management Programs (cont.)

VA DEQ EMS

This section of ISO 14001 requires four distinct steps:

1. The organization must demonstrate that it has established a management program for achieving its objectives and targets.

2. Assigned responsibility at all appropriate levels.

Environmental Management Programs (cont.)

VA DEQ EMS

This section of ISO 14001 requires four distinct steps: (cont.)

3. The organization must specify time frames and mechanisms needed.

4. The organization must employ “continual improvement” when appropriate.

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Environmental Management Programs (cont.)

VA DEQ EMS

This section of the standard completes the "PLANNING PROCESS" of ISO 14001. The planning process contained the following elements:

1. Environmental Aspects,
2. Legal and Other Requirements,
3. Objectives and Targets, and
4. Management Programs

Now it is time to move to Implementation!

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VA DEQ EMS

IMPLEMENTATION AND OPERATION (4.4)

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Implementation and Operation (cont.)

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Section 4.4 of the standard contains the overall requirements for the organizational and operational roles and structures of the ISO 14001 environmental management system.

Implementation and Operation (cont.)

VA DEQ EMS

The major topics within the Implementation and Operation heading are:

A. Structure and Responsibility (4.4.1)

Who does what?

B. Training, Awareness and Competence (4.4.2)

Who needs to be trained?

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Implementation and Operation (cont.)

VA DEQ EMS

The major topics within the Implementation and Operation heading are: (cont.)

C. Communication (4.4.3)

What communication system needs to be established?

D. Environmental Management System Documentation (4.4.4)

What level of documentation is needed?

Implementation and Operation (cont.)

VA DEQ EMS

The major topics within the Implementation and Operation heading are: (cont.)

E. Document Control (4.4.5)

How do you keep current and accurate documents?

F. Operational Control (4.4.6)

How do you insure that the operations are controlled properly?

Implementation and Operation (cont.)

VA DEQ EMS

The major topics within the Implementation and Operation heading are: (cont.)

G. Emergency Preparedness and Response (4.4.7)

How do you plan and respond to emergency situations?

Structure and Responsibility

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STRUCTURE AND RESPONSIBILITY (4.4.1)

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Structure and Responsibility (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the Structure and Responsibility section of the standard is

"WHO DOES WHAT?"

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Structure and Responsibility (cont.)

VA DEQ EMS

Three specific tasks must be addressed:

A. Responsibilities of each individual and and unit within the organization must be defined and documented with respect to the EMS.

Structure and Responsibility (cont.)

VA DEQ EMS

Three specific tasks must be addressed: (cont.)

B. Adequate resources must be provided to implement and maintain the EMS.

C. Management representative must be appointed to ensure conformance and continual improvement.

Structure and Responsibility (cont.)

VA DEQ EMS

Everyone's role with respect to the EMS must be documented and communicated -- In other words every member of the organization must recognize and understand their role.

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Structure and Responsibility (cont.)

VA DEQ EMS

Top management must commit the resources necessary to support the EMS:

- manpower,
- special skills,
- technology, and
- financial

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Structure and Responsibility (cont.)

VA DEQ EMS

The appointed management representative must have the responsibility and necessary authority to perform the following:

- establish ISO 14001 requirements,
- review implementation
- determine operational conformance with ISO 14001, and
- report to top management on conformance and continual improvement .

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TRAINING, AWARENESS AND COMPETENCE (4.4.2)

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Training, Awareness and Competence (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the Training, Awareness and Competency section of the standard is

WHO NEEDS TO BE TRAINED?

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Training, Awareness and Competence (cont.)

VA DEQ EMS

There are two types of training required:

A. General Awareness, and

B Technical and Skills

Training, Awareness and Competence (cont.)

VA DEQ EMS

Awareness Training

The entire organization should have general awareness training.

Training, Awareness and Competence (cont.)

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The general awareness training should consist of the following:

1. Importance of the EMS,

2. Various roles within the organization for achieving and maintaining the EMS, and

3. Consequences of deviating from the EMS.

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Training, Awareness and Competence (cont.)

VA DEQ EMS

Technical and Skills training has two subdivisions:

1. Provided for those individuals and units which are responsible for activities that may create significant environmental impacts.

2. Emergency Preparedness and Response.

Training, Awareness and Competence (cont.)

VA DEQ EMS

The level of training will depend upon the complexity of the activity and the level of education and experience of the personnel involved.

Training, Awareness and Competence (cont.)

VA DEQ EMS

The organization must develop competency standards for the training.

Communication

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EMS

COMMUNICATION (4.4.3)

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Communication (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the Communication section of the standard is

WHAT COMMUNICATION SYSTEM NEEDS TO BE ESTABLISHED?

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Communication (cont.)

VA DEQ EMS

Three issues must be addressed:

1. Organization must establish and maintain an internal communication system for the EMS.

2. Organization must establish a system for responding to external communication with respect to the EMS.

3. Organization should decide whether to communicate significant environmental aspects to external parties.

Communication (cont.)

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The internal communication requirement already exists within the standard.

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Communication (cont.)

VA DEQ EMS

The wording used is the standard with respect to the remaining requirements becomes “grey” .

i.e. “relevant” & “record its decision”

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Communication (cont.)

VA DEQ EMS

It is left to the organization to determine what is “relevant”, and therefore what it is required to respond to from external communication.

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Communication (cont.)

VA DEQ EMS

The standard raises the issue of communicating to external parties information on the significant environmental aspects of the organization. The standard then goes on to state that the organization must “record its decision” whether to communicate this information.

Communication (cont.)

VA DEQ EMS

The Communication Section of the standard should be read very carefully, and the organization's interactions with external parties evaluated carefully.

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Environmental Management System Documentation

VA DEQ EMS

ENVIRONMENTAL MANAGEMENT SYSTEM DOCUMENTATION (4.4.4)

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Environmental Management System Documentation (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the Environmental Management System Documentation of the standard is

WHAT LEVEL OF DOCUMENTATION IS NEEDED?

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Environmental Management System Documentation (cont.)

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Three issues must be addressed:

1. Organization must describe the foundation elements of the EMS in either paper or electronic format.

2. Description must demonstrate the interaction between elements.

3. Description must reference the related documentation.

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Environmental Management System Documentation (cont.)

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When reviewing the standard the requirements for documentation are based upon the presence of the following:

1. Word -- “document”; and,
2. Phrases --
   a. “establish and maintain procedures”,and
   b. “establish and maintain programme(s)”

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Environmental Management System Documentation (cont.)

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When reviewing the language of the standard either the word “document” or one of the phrases is discovered in every section.

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Environmental Management System Documentation (cont.)

VA DEQ EMS

The standard is silent on the form of the documentation. The development of an environmental management system manual is one possible approach.

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Environmental Management System Documentation (cont.)

VA DEQ EMS

One possible format for the EMS manual:

A. Planning (4.2 and 4.3.1 through 4.3.4)

B. Program Overview (4.4.1 through 4.4.7 and 4.5.1 through 4.5.4)

C. Management Review (4.6)

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Environmental Management System Documentation (cont.)

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Planning section of the EMS manual would include the development of the environmental policy, significant environmental aspect, objectives and targets and the workplans and timelines for the objectives and targets.

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Environmental Management System Documentation (cont.)

VA DEQ EMS

Environmental Management Program Overview section of the manual would include the structure and responsibility charts and the procedures and evidence required by sections 4.4 and 4.5 of the standard.

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Environmental Management System Documentation (cont.)

VA DEQ EMS

The Management Review section of the EMS manual would contain the records of the review by top management.

Environmental Management System Documentation (cont.)

VA DEQ EMS

The potential benefits to this approach are that it ties together the vision and goals of the organization in the first section of the manual. The second section of the manual contains the necessary procedures and evidence to support the vision and goals. The final section of the manual contains the record of review by top management with respect to the vision and goals.

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Environmental Management System Documentation (cont.)

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The EMS manual should be kept as simple and streamlined as possible. Do not create a collection of documents more complicated than necessary to meet the requirements of this section of the standard

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Document Control

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DOCUMENT CONTROL (4.4.5)

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Document Control (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the Document Control section of the standard is

HOW DO YOU MAINTAIN CURRENT AND ACCURATE DOCUMENTS?

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Document Control (cont.)

VA DEQ EMS

Six issues must be addressed:

1. Scope of the overall document control system needs to be defined.

2. Must be a document approval or authorization process.

3. Maintain a document revision tracking process.

4. Insure that correct revisions are available at workstations.

Document Control (cont.)

VA DEQ EMS

Six issues must be addressed: (cont.)

5. Out of date documents promptly removed from workstations.

6. Out of date documents that need to be archived for historical purposes are maintained at a separate location.

Document Control (cont.)

VA DEQ EMS

The primary purpose of the document control system is to insure that only the current and approved documents are employed in the planning and implementation of the EMS.

Operational Control

VA DEQ
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OPERATIONAL CONTROL (4.4.6)

Operational Control (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the Operation Control section of the standard is

HOW DO YOU INSURE THAT THE OPERATIONS ARE CONTROLLED PROPERLY?

Operational Control (cont.)

VA DEQ EMS

Three issues must be addressed:

1. Organization must identify the operations and activities that are directly associated with the Significant Environmental Aspects.

2. Organization must develop procedures and operational criteria, including maintenance, that address these specific operations and activities.

Operational Control (cont.)

VA DEQ EMS

Three issues must be addressed: (cont..)

3. Organization must communicate the procedures and operational criteria to suppliers of products and services that might interact with the established Significant Environmental Aspects.

Operational Control (cont.)

VA DEQ EMS

The first two points have been previously addressed and evaluated during the development of Environmental Policy statement, Significant Environmental Aspects and the Environmental Objectives and Targets. This section of the standard reinforces the need for documented procedures for those programs directly related to Significant Environmental Aspects.

Operational Control (cont.)

VA DEQ EMS

The third point references the “control and influence” concept. The organization will need to communicate relevant portions of the EMS to suppliers and contractors if their activities and services have the potential to interact with the organization’s Significant Environmental Aspects.

Emergency Preparedness and Response

VA DEQ EMS

EMERGENCY PREPAREDNESS AND RESPONSE (4.4.7)

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Emergency Preparedness and Response (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the Emergency Preparedness and Response section is

HOW DO PLAN AND RESPOND TO EMERGENCY SITUATIONS?

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Emergency Preparedness and Response (cont.)

VA DEQ EMS

Three specific issues must be addressed:

1. Organization must identify the possibilities for accidents and emergency situations.

2. Organization must prepare emergency preparedness and response procedures.

3. Organization should evaluate and revise as appropriate the procedures.

Emergency Preparedness and Response (cont.)

VA DEQ EMS

NOTE: The Emergency Preparedness and Response section of the standard applies to the entire organization, not just the Significant Environmental Aspects.

Emergency Preparedness and Response (cont.)

VA DEQ EMS

Potential process steps:

- inventorying hazardous substances
- identifying potential accident scenarios
- modeling potential distribution patterns
- evaluating potential impacts

Emergency Preparedness and Response (cont.)

VA DEQ EMS

Once the preceding steps have been completed the organization should develop procedures to potentially eliminate the incidents.

Emergency Preparedness and Response (cont.)

VA DEQ EMS

Organization should also develop procedures to respond to the potential accidents.

Emergency Preparedness and Response (cont.)

VA DEQ EMS

The emergency response procedures should be tested periodically.

Checking and Corrective Action

VA DEQ EMS

CHECKING AND CORRECTIVE ACTION (4.5)

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Checking and Corrective Action (cont.)

VA DEQ EMS

Section 4.5 of the standard contains the overall requirements for the checking (data collection) and corrective action (assessment) requirements of the ISO 14001 environmental management system.

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Checking and Corrective Action (cont.)

VA DEQ EMS

The major topics within the Checking and Corrective Action heading are:

1. Monitoring and Measurement (4.5.1)

   How does the organization evaluate the key characteristics of the EMS with respect to conformance with both the Environmental Objectives and Targets and environmental laws and regulations?

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Checking and Corrective Action (cont.)

VA DEQ EMS

The major topics within the Checking and Corrective Action heading are: (cont.)

2. Nonconformance and Corrective and Preventative Action (4.5.2)

   How does the organization handle nonconformance with respect to the EMS?

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Checking and Corrective Action (cont.)

VA DEQ EMS

The major topics within the Checking and Corrective Action heading are:(cont.)

3. Records (4.5.3)

   How does the organization handle records associated with the EMS?

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Checking and Corrective Action (cont.)

VA DEQ EMS

The major topics within the Checking and Corrective Action heading are: (cont.)

4. Environmental Management System Audit (4.5.4)

   How does the organization conduct environmental audits of the EMS?

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Monitoring and Measuring

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MONITORING AND MEASUREMENT (4.5.1)

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Monitoring and Measuring (cont.)

VA DEQ EMS

Section 4.5.1 of the standard contains the requirements for monitoring and measurement of those activities related to the significant environmental aspects of ISO 14001.

Monitoring and Measuring (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the monitoring and measurement section is

HOW DOES AN ORGANIZATION EVALUATE THE KEY CHARACTERISTICS OF THE EMS WITH RESPECT TO CONFORMANCE WITH THE ENVIRONMENTAL OBJECTIVES AND TARGETS AND COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS?

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Monitoring and Measuring (cont.)

VA DEQ EMS

Three specific issues must be addressed:

1. Organization must establish a documented procedure to monitor and measure on a set frequency the activities that are related to the significant environmental aspects.

2. Organization must ensure that the devices used for monitor and measure are calibrated accurately.

Monitoring and Measuring (cont.)

VA DEQ EMS

Three specific issues must be addressed: (cont.)

3. Organization must establish a documented procedure for evaluating on a set frequency compliance with environmental laws and regulations.

Monitoring and Measuring (cont.)

VA DEQ EMS

Remember the significant environmental aspects lead to the development of the objectives and targets. The monitoring programs must be directly related to each established target.

Monitoring and Measuring (cont.)

VA DEQ EMS

Calibration of monitoring and measuring devices is required to insure that the organization has control of accuracy and precision issues.

Monitoring and Measuring (cont.)

VA DEQ EMS

ISO 14001 requires that the organization evaluate, understand and recognize its obligations with respect to applicable environmental laws and regulations. A documented procedure with a set frequency must be developed to review compliance with laws and regulations.

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Monitoring and Measuring (cont.)

VA DEQ EMS

ISO 14001 requires that the organization maintain these records.

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NONCONFORMANCE AND CORRECTIVE AND PREVENTATIVE ACTION (4.5.2)

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Nonconformance and Corrective and Preventative Action (cont.)

VA DEQ EMS

Section 4.5.2 of the standard contains the requirements for addressing, correcting and preventing nonconformance within the environmental management system.

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Nonconformance and Corrective and Preventative Action (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the nonconformance and corrective and preventative section is

HOW DOES THE ORGANIZATION HANDLE NONCONFORMANCE WITH RESPECT TO THE EMS?

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Nonconformance and Corrective and Preventative Action (cont.)

VA DEQ EMS

Three specific issues must be addressed:

1. Organization must develop a procedure for investigating nonconformance from the established EMS (include responsibility and authority).

2. Organization must take the necessary actions to mitigate impacts.

3. Organization will need to modify existing procedures as preventative action.

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Nonconformance and Corrective and Preventative Action (cont.)

VA DEQ EMS

4.5.2 is aimed at the following process:

1. document the nonconformance;
2. notify and mitigate;
3. investigate the cause;
4. prevent reoccurrence;
5. modify existing procedure (preventative); and,
6. communicate changed procedure.

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Nonconformance and Corrective and Preventative Action (cont.)

VA DEQ EMS

Where does the evidence of a nonconformance originate?

1. internal reporting system of the EMS, and
2. external sources such as suppliers, end users and stakeholders.

There must be recognition for the potential of external communication with respect to nonconformance.

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Records

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RECORDS (4.5.3)

Records (cont.)

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EMS

Section 4.5.3 of the standard contains the requirements for records within the environmental management system.

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Records (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the records section is

HOW DOES THE ORGANIZATION HANDLE RECORDS ASSOCIATED WITH THE EMS?

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Records (cont.)

VA DEQ EMS

Three specific issues must be addressed:

1. Organization must establish and maintain a records retention system for the necessary supporting documentation relating to the EMS.

2. Organization must establish retention timeframes for the records.

3. Records archived in a traceable and identifiable fashion.

Records (cont.)

VA DEQ EMS

Universe of records for retention:

1. Legal and other requirements
2. Permits
3. Environmental aspects and impacts
4. Environmental training
5. Inspection and calibration information
6. Monitoring data

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Records (cont.)

VA DEQ EMS

Universe of records for retention: (cont.)

7. Nonconformance reports and follow-up information

8. Environmental audits

9. Management reviews

10. Emergency preparedness response information

11. Etc.

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Records (cont.)

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Retention Time Frames:

1. Permits--established by regulatory groups

2. Suggestion--maintain records related to previous nonconformance longer than other time frames.

Records (cont.)

VA DEQ
EMS

Record system should be indexed and archived in such a manner that any searches can be accurately and quickly completed.

Records (cont.)

VA DEQ EMS

NOTE:

The records that support the EMS are extremely important to the organization with respect to audits and management reviews.

Environmental Management System Audits

VA DEQ EMS

ENVIRONMENTAL MANAGEMENT SYSTEM AUDITS (4.5.4)

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Environmental Management System Audits (cont.)

VA DEQ EMS

Section 4.5.4 of the standard contains the requirements for audits of the environmental management system.

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Environmental Management System Audits (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the EMS audit section is

HOW DOES THE ORGANIZATION CONDUCT ENVIRONMENTAL AUDITS OF THE EMS?

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Environmental Management System Audits (cont.)

VA DEQ EMS

Four specific issues must be addressed:

1. Organization must develop a program and procedures that define the audit plan, including frequency.

2. Procedures must define methodology and qualifications of auditors.

3. Requirement that audit reports be submitted to top management.

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Environmental Management System Audits (cont.)

VA DEQ EMS

Four specific issues must be addressed: (cont.)

4. Audit reports must contain recommendations for correcting any nonconformance discovered.

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Environmental Management System Audits (cont.)

VA DEQ EMS

Frequency of audits:

1. Mature systems -- once a year,
2. Implementation phase -- more frequent, and
3. Nonconformance areas -- more frequent.

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Environmental Management System Audits (cont.)

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Methodology requirements:

1. Determine conformance with requirements of ISO 14001, and

2. That the EMS has been managed as described in the Environmental Policy statement, the Environmental Objectives and Targets, and related work descriptions and procedures.

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EMS

MANAGEMENT REVIEW (4.6)

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Management Review (cont.)

VA DEQ EMS

Section 4.6 of the standard contains the requirements for top management review of the EMS.

Management Review (cont.)

VA DEQ EMS

The basic issue that needs to be addressed in the management review section is

WHAT MUST HAPPEN DURING THE MANAGEMENT REVIEW?

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Management Review (cont.)

VA DEQ EMS

Three specific issues must be addressed:

1. Top management must conduct reviews of the EMS on a set frequency.

2. Top management must evaluate the existing information on the EMS to determine if it is adequate.

3. Top management must evaluate the need for modifying the Environmental Policy and the Environmental Objectives.

Management Review (cont.)

VA DEQ EMS

What material should be provided to top management:

1. compliance information,
2. internal audit reports,
3. progress reports w/r to environmental targets,
4. information w/r to environmental aspects, and
5. internal and external communications w/r to EMS.

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Management Review (cont.)

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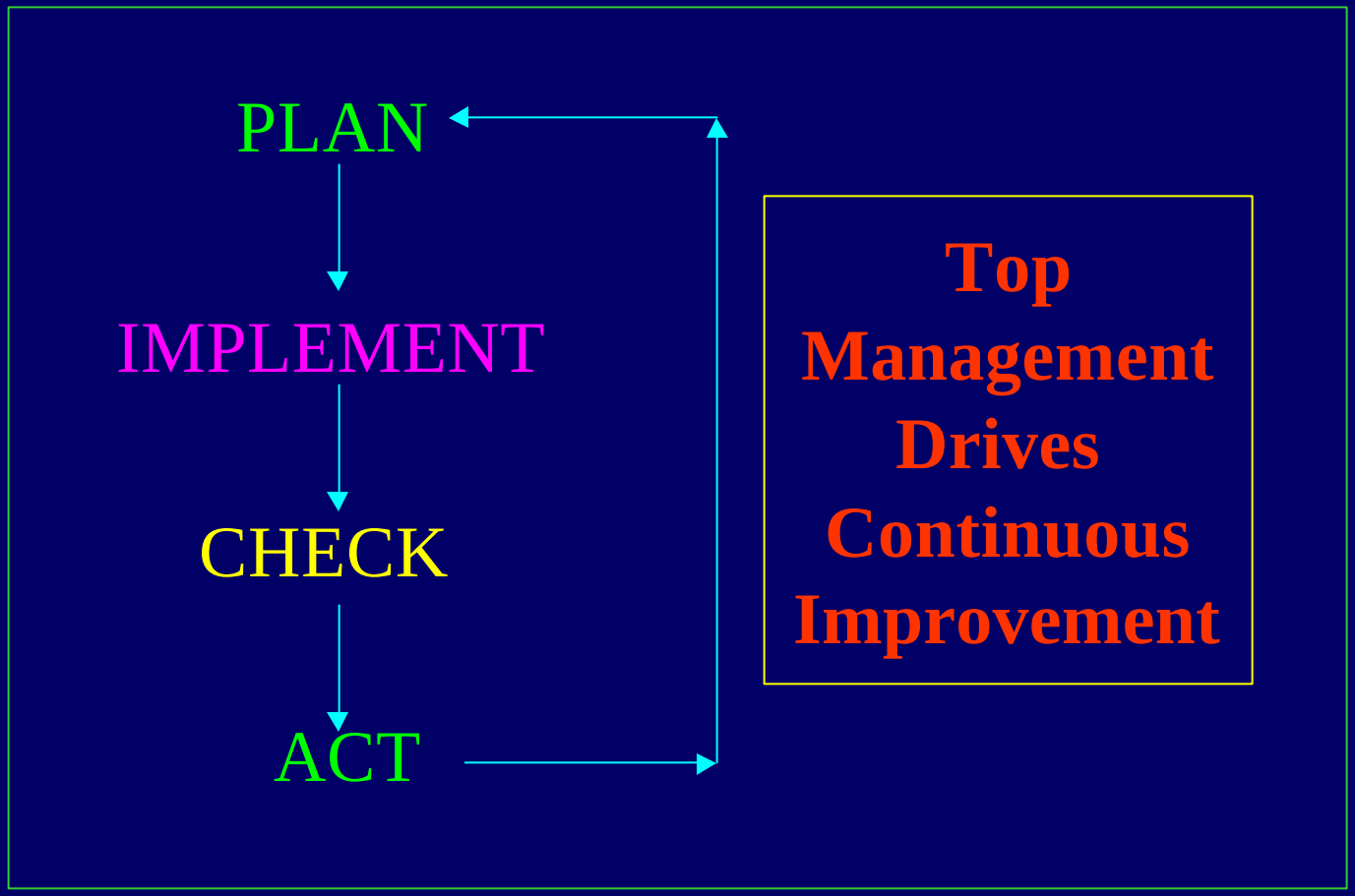

Top Management Drives Continuous Improvement